ROLE OF PROJECT MANAGEMENT METHODOLOGIES IN ACHIEVING PROJECT SUCCESS AND BUSINESS VALUE CREATION IN THE FINANCIAL SERVICES SECTOR

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ABSTRACT

Increasingly, organizations, regardless of industries, culture, size and, countries, have been embracing different project management methodologies based on the dynamic environment. Financial Services face more unstable market conditions, economies and technologies, stricter regulations, and higher stress to meet customers' requirements and maximize profits. Financial services are challenged to offer services based on customers' preferences that are evolving due to technology advancements and changes. Financial services especially information technology-based businesses face stress to sustain considering the dynamic behaviour of the market in many ways such as either efficiency improvement or controlling the cost based on market changes. Nevertheless, financial services are always challenged to manage stakeholders along with the flexible and responsive processes, and focusing on technological advancement to improve success in projects.

Various authors have pointed the advantages of project management methodologies, with its emphasis on processes, stakeholder negotiations, and responsiveness over rigid planning, there are, to date, very few empirical studies to support the contention that project management methodologies can improve the likelihood of project success and business value creation. The objective of this research is to test the effects of different project management methodologies applied in Financial Services organizations leading to project success and business value creation. Further, the moderating effects of project innovativeness and project size are examined. The study is based on the primary data, which is administered through a survey questionnaire.

The findings demonstrate that the effect of project management methodologies varies with the type of project executed in an organization. Project factors, project management processes, and risk mitigation strategies such as project planning, senior management support, project risks, project's strategic orientation, project flexibility and communication have a significant influence on project success and business value. And, such factors and processes play a vital role especially in large-size high-technology projects. It is also evident that the use of different types of project management methodologies considering the project context and contingency factors, the newness of the projects, and project size varies due to the strategic importance of the project, upper management commitment, client responsiveness, and use of risk mitigation strategies adopted during the project execution and overall innovation culture adopted in an organization. This study enriches project research by applying a contingent approach to the project management methodology context and offers practical guidance for further professionalizing project management.

Key Words: Project Management Methodology, Project Innovativeness, Project Size, Project Success, Business Value, Financial Services, Project Flexibility, Project Risk Management, Upper Management Commitment, Project Strategic Fit, Project Scheduling, Project Communication, Project Planning.

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LIST OF SYMBOLS AND ABBREVIATIONS

$\chi 2$	Chi-Square
AMOS	Analysis of Moment Structures
ANOVA	Analysis of Variance
CFI	Confirmatory Fit Index
CSF	Critical Success Factor
FDIC	Federal Deposit Insurance Corporation
GFI	Goodness of Fit Index
IT	Information Technology
MANOVA	Multivariate Analysis of Variance
MNC	Multi National Company
NFI	Normed Fit Index
NPD	New Product Development
BWW	Bunge, Wand and Weber ontology
BDS	Business Development Services
BPR	Business Process Reengineering
CSED	Centre for Social Education and Development
CEO	Chief Executive Officer
PMI	Project Management Institute
PMM	Project Management Methodology
R&D	Research and Development
RO	Research Objectives
RQ	Research Question
SEC	Securities and Exchange Commission
SEPA	Single Euro Payments Area
SEM	Structured Equation Modelling
SPSS	Statistical Package for the Social Sciences
SRMR	Standardized Root Mean Residual

SYNOPSIS

1 INTRODUCTION

Increasingly, projects are emerging in every industry. Every year trillions of dollars are capitalized on projects, still, the rate of failure is high. Inconsistencies exists in evidence inferred that favours one approach with another, and the consequences of research studies exploring such assertions. Project failure rates remain the same irrespective of the availability of various resources to project managers. Researches based on project management continue to point that project-based organizations face failures either due to the lack of enough project budgets or lag behind in project schedule and on average failure in one project occurred in the every year. Project failure rates remain stable and higher regardless of the type of project or organizations converging more around project performance (Standish Group, 2020).

Studies (Naeem et al., 2017; Verner et al., 2021) determined that more than 80% of the projects entirely or partly fail and intimidate the organizations' survival. Such project failure rates have made researchers and professionals determine solutions for the constraints in attaining continued success in projects. The involvement of numerous key aspects to successful IT projects is captured in latest studies such as Dandage et al. (2021). Project Management Methodology (PMM) is a key factor to enhance success in projects. PMMs support organizational members in attaining anticipated success in projects. Project management literature distinguishes different PMMs and is divided on whether traditional or flexible PMMs improve effectiveness in projects, hence greater chances to achieve success in projects (Joshlin et al., 2015).

The study is carried out to find the examine the role of project management methodologies on achieving project success and create business value in Financial Services, and is based on primary data collected through the questionnaire. The study will help those organizations facing challenges in adopting different project management methodology to accomplish expected business outcomes. Effects of moderating variables such as project innovativeness and project size are also studied.

2 NEED FOR THE STUDY

Financial institutions are going through changes in technology platforms, payments processing systems, financial systems, asset, and risk management systems while attempting to deliver services in the way customers prefer. Financial Services organizations also comply with regulations such as Sarbanes Oxley, SEC, FDIC and the Federal Reserve, while if international, they may also require compliance with Basel II and SEPA directives, among others. Combine this with the difficult market conditions in the past few years, and the need to sustain revenue growth and retain market share in an increasingly competitive landscape, and IT business units within financial firms are feeling increasing pressure to improve efficiency and speed while at the same time maintaining controls on cost and capital outlays. Also, the rigid project development process in dynamic environments and change in technologies result in project failures. Financial institutions are challenged to offer services based on customers' preferences that are evolving due to technology advancements and changes, such as payments processing systems, financial risk, and asset management systems. Given the dynamic market conditions, the financial companies (especially IT business units) facing increased pressure to sustain and improve their efficiency and promptness towards market changes while having control over cost. However, the challenge in Financial Services is to remain flexible

with processes, stakeholder negotiations, responsiveness over rigid planning and risk management, and focus on technology projects to improve the likelihood of project success. Importantly, PMMs offer ways to achieve success in projects especially in a dynamic environment. Still, projects applying project management approaches have high failure rates. Thus, it is suggested to have more research to understand how the success of projects gets influenced by project management approaches and create value in business considering project context in diverse industries (Gemino et al., 2021).

3 STATEMENT OF THE PROBLEM

Researchers and practitioners began seeking alternative methodologies for project implementation, recognizing that traditional methodologies for planning and execution may not be optimal or tuned for the specific challenges that the project face. Non-traditional or customized approaches contrast with traditional or standard project management methodologies by emphasizing continuous design, flexible scope, freezing design features as late as possible, embracing uncertainty, customer interaction, modified project team organization, and most importantly business value creation. Organizations have begun the transition from traditional project management methodologies to non-traditional project management methodologies in different industries. However, larger organizations face many challenges when working with non-traditional approaches apart from the other factors, such as, social, human, etc. which influence the project success and focus towards right balance among group autonomy and role of the organization (PMI, 2018). Because of a large amount of regulation within the Financial Services especially, often choose to continue with traditional or standard project management methodologies, which hamper them from the benefits of using other methodologies, and

negatively affect the proper operation and development of the organization. In India, until today, there is little, if any research on the use of different project management methodologies in the Financial Services sector. Therefore, this study focused on the role of different project management methodologies leading to project success and the creation of business value in Financial Services.

4 REVIEW OF LITERATURE

Tiwana and Keil's (2004) study of IT projects found that the use of an inappropriate methodology is actually the most critical risk driver for project failure. Therefore, matching the project type and the software development approach would be expected to increase the chances of project success. Howell et al. (2010) further suggest that the lack of a decision support tool and theory connecting project types and project methodology discourages project managers from considering alternative methodologies. Muller and Jugdev (2012) extended the seminal work of Pinto, Slevin, and Prescott (1987) in identifying project success factors and project success criteria. It is positioned as an overview of the impactful work of these three researchers and the developments thereafter in the realm of project success and its relationship to corporate success.

Flyvbjerg and Budzier (2013), studied a data set of IT projects consisting of a system implementation, IT infrastructure, communication technology, IT architecture, etc. and found that Agile methods appear to improve project delivery times (e.g. project delivery time) and have different impacts on the different types of projects, but found no impact on the other project constraints. Overall, the study explored the impact of two practices of project management, such as benefits management and agile delivery methodology. Serrador and Turner (2015) adopted a post-positivist approach

and found that project planning is an important contributor to project success and the greatest impact was found to be on the broad success measures with a lesser effect on project efficiency: time, budget, and scope; concluded the research by stating that the projects are spending less time in planning than the optimum to achieve the best results.

Serrador and Pinto (2015) furthered the work of Flyvbjerg and Budzier (2013) by exploring the efficacy of the Agile method through a comprehensive and large scale empirical analysis of projects being developed with varying levels of agile approaches and their subsequent likelihood of success; and tested the effect of Agile use in organizations on project success considering efficiency and overall stakeholder satisfaction. They focused solely on agile and traditional methodologies, including moderators industry and experience, as to the influence of project management methodology on stated project success. Further, it is examined that the moderating effects of perceived quality of project vision, project complexity, and project team experiences. Findings suggested that agile methods do have a positive influence on project success and quality of vision is a marginally significant moderator of this impact.

Joshlin and Muller (2015) investigated whether there is a relationship between a project methodology, including its elements, and project success, and if this relationship is impacted by the project environment (e.g. project governance or culture). Ahimbisibwe et al. (2015) set out to develop an integrative contingency fit framework to describe the effects of critical success factors and their interaction on project success from the vendor's perspective. Ahimbisibwe et al. (2017) developed and examined a contingency fit model comparing the differences between critical success factors for outsourced software development projects in the current context of PMMs, from the perspective of vendors. Conversely, Suetin et al.

(2016) studied the practical aspects of agile project management implementation in Russian software engineering companies and found that the introduction of agile project management methods lessened project success. However, the quality, both perceived by clients and assessed by internal technical analysis, improved after the implementation of agile software project management practices. These conflicting results present a challenge as to the nature of the relationship between project management methodology and reported project success.

Azanha et al. (2016) performed the exploratory qualitative research considering a pharmaceutical industry information technology project and analyzed the benefits of the agile project management (APM) framework compared to the traditional waterfall model, and understand how it can help companies add value and gain competitive advantage. There were benefits found in the utilization of the agile framework, such as increased motivation and staff satisfaction, better control of requirements, and especially higher quality of the delivered system, generating added value to the organization. Dwayne K. Melton (2017) accomplished multiple case studies by assessing the perspectives of project managers on the impact of stakeholder management in the context of long-term project success using Agile. Findings indicated the level of stakeholder satisfaction can override the conventional success factors and stakeholders are vital to project success and should be part of the project planning.

Jacob Williams (2017) examined the model by having an exploratory study which proposes that project management practices mediate the relationship between project complexity and project outcomes based on the project management practices used and found the relationship among project management practices and project results but the relationship between project complexity and project management practices are inversely

related. If the project management practices usage tends to decrease as project complexity increases then complex project outcomes can be improved by focusing on the application of practices. Mogens Frank Mikkelsen (2017) indicated that all projects need an understanding of success. Without one, any project outcome would do. Measures of success are needed for the fundamental navigation of projects. Projects have extremely struggled with the definition of success. One main reason for measuring success is to understand how to do things better the next time. Therefore, the success of a given project needs to be seen concerning how difficult the project was. Project complexity is a relevant measure of the innovativeness of a given project. In other words, project success should be seen relative to project innovativeness. Project performance can be measured in terms of project complexity. Project complexity functions as a link between two kinds of project success i.e. efficiency and effectiveness.

Sanchez et al., (2017) analysed the antecedents of information systems with respect to the project management success, considering the simultaneity of the variables at multiple levels such as portfolio, project, program, and team level. The goal of the study was to identify the project management practices through which an organization can enhance its competence to achieve the success of information system development projects. Given the underlying philosophy of the agile manifesto, the research by Vaughan Henriques (2017) hypothesized that an increase in agile maturity is associated with the improved perceived project success, by using a conceptual model based on an existing agile maturity model and how each of the maturity levels is related to the perceived project success. The research found insights on perceived project success, showing success in an agile environment is a subjective concept and each of the maturity levels are most strongly correlated with perceived project success and concludes an increasing correlation between the maturity levels and perceived project

success. It also highlighted the criticality of customer involvement in agile implementations.

Senabre Hidalgo, E. (2018) explored the utilization of agile methods by a semi-distributed scientific team, for coordinating a multidisciplinary research project, by examining the cases. It examined how these methods can contribute to task coordination in scientific research and highlights key factors for successful adoption of the agile framework in collaborative research projects. The findings indicated that agile methods contribute to improved coordination and teamwork during project development. The study by Michael Pace (2019) examined the sample of North American project managers by extending the work of Serrador and Pinto (2015) and found that project management methodology has a weak correlation with reported project success, and this correlation is not moderated by industry nor project manager experience. These findings hold significance to organizations attempting to deploy a certain methodology to achieve consistent project success in that the lack of a singular project management methodology carries complications that selecting an inappropriate method can detrimentally impact project success. However, project management methodology can play a role in project success but there could be different variables of greater importance to project success.

Recently, some scholars such as Bradley (2010) have suggested that benefits realization management makes the value and the strategic relevance of each project clear, enabling an increased effectiveness of project governance. More than just governance, ‘strategic governance’ leads organizations to work towards the delivery of planned benefits. Organizations with mature processes of benefit realization – and therefore stronger governance – have their management boards prioritizing and supporting mostly those projects which can deliver the most relevant benefits

and create business value. By increasing the effectiveness of project governance and use of project management methodologies arguably reduce project failure rates from a strategic perspective especially in project portfolio management but there is scant evidence about its impact on project success. Thus, Serra and Kunc (2014) evaluated the business benefits among the project management communities in the United Kingdom, United States and Brazil in order to understand its impact on project success rates and evaluate the impact of projects on the creation of organizational value (Zwikael and Smyrk, 2012) and suggested project management practices as important contributors to the successful execution of business and project performance, in line with Patanakul et al. (2012) and Martinsuo et al. (2014). On similar lines, Gemino et al. (2021) explored the impact of project approaches on project outcomes and confirmed the importance of using multiple dependent measures when considering the project success.

5 RESEARCH GAP

Tiwana and Keil's (2004) suggested the "what if" assessment tool to analyze project uncertainties and suggested applying the same in different project perspectives. Howell et al. (2010) offered the project contingency framework and suggested to apply on different factors affecting overall success. Muller and Jugdev (2012) extended the seminal work of Pinto, Slevin, and Prescott (1988) in identifying project success factors and project success criteria, and suggested applying the same in the different project settings or environment. The study by Budzier and Flyvbjerg (2013), is qualitative and limited to one of the projects constraints hence suggested incorporating other project constraints (e.g. quality, cost) and recommended having more empirically proven association among hybrid agile methodology and project success. Serra and Kunc (2014) performed the study in US, UK and Europe and suggested to consider the stratified sample

in different market sectors and types of projects can contribute to understanding the variance on the influence of business processes and of each dimension of success on the final evaluation of project success.

Joshlin and Muller (2015) suggested having future research should address how generic vs customized methodologies are impacted by environmental factors and different environments impact the completeness of an organization's methodology. Ahimbisibwe et al. (2015) suggested finding the extent to which the project factors get influenced by the usage of different project management methodologies. Pedro Serrador and Rodney Turner (2015) investigated to what extent project efficiency is correlated with overall project success and suggested exploring the relationship between efficiency and success by considering, timeframes impact on project success, moderators which influence the relationship among efficiency and success and a wider array of project participants considering the quantitative approach. Study of IT projects found that the use of an inappropriate methodology is actually the most critical risk driver for project failure. Therefore, matching the project type and the software development approach would be expected to increase the chances of project success.

Howell et al. (2010) further suggest that the lack of a decision support tool and theory connecting project types and project methodology discourages project managers from considering alternative methodologies. Muller and Jugdev (2012) extended the seminal work of Pinto, Slevin, and Prescott (1987) in identifying project success factors and project success criteria. It is positioned as an overview of the impactful work of these three researchers and the developments thereafter in the realm of project success and its relationship to corporate success.

The research by Serrador and Pinto (2015) covered the limited information on how the planning is structured and it is suggested to examine the impact of the dynamism of the environment (i.e. hybrid agile methods) on the relationship between agile and success, the way participants captured the information on planning effort, analysis of projects where more time is spent re-planning during execution. Ahimbisibwe et al. (2017) proposed that the project factor does have a moderating effect on the relationships between organizational, team and customer factors with project success as well as potentially negatively direct effects on project success. It was proposed to incorporate the contingent relationships with project methodology by indicating that separate models and samples are needed for testing how the CSFs and moderated project-specific effects fit with either traditional or agile approaches.

The study by Suetin et al. (2016) was limited to the Russian software engineering organizations and recommended having further studies in hybrid agile initiatives for the project time and cost performance, in different industries. Azanha et al. (2016) compared the agile project management (APM) framework with the traditional waterfall model limited to Brazilian industry and recommended to carry out further studies which demonstrate the practical usage of the hybrid agile methodology in different cultural settings. Dwayne K. Melton (2017) suggested addressing standards of practice to define both the role of stakeholders and their opinion on project success, especially in planning, by comparing different work environments, such as hybrid agile methods.

Jacob Williams (2017) examined the definition of project complexity which is still maturing and the factors included in the instrument of complexity in dynamic environments (such as hybrid and Agile project management) need further review. Vaughan Henriques (2017) suggested

performing quantitative research inclusive of technical and business representatives on the agile teams and perception of project success in different environments. Senabre Hidalgo, E. (2018) explored the utilization of agile methods and suggested having additional research on the adoption of agile methods and the usage of different practices.

Michael Pace (2019) work has limitations of the usage of the existing survey which restricted the deeper probing on responses and failed to capture certain demographic information and is recommended to focus on additional methods to explore more hybrid methods in agile project management. Gemino et al. (2021) suggested that hybrid and agile approaches significantly increase stakeholder success over traditional approaches while achieving the same budget, time, scope, and quality outcomes. Hybrid approaches were found to be similar in effectiveness to fully agile approaches. Gemino et al. (2021) recommended validating the outcomes in different settings. In line with the usage of project management methodology, previous studies were either limited to the one of the project constraints or less empirically proven association among project management methodology, project planning, project risk management, the role of top management, factors required in the dynamic environments, use of advanced technology, and project success in different environments. Hence, a holistic approach could not be captured from the earlier studies. The effect of different project management methodologies on project success and business value (especially in the Financial Services sector) is not studied in the past and is explored by this study.

6 RESEARCH QUESTIONS AND OBJECTIVES

To inscribe scarcity within project management research considering notional aspects and different project management methodologies, the main

research question, other cascading research questions, research objectives, and designed hypotheses are depicted in Table 1.

Table 1. Research Questions, Objectives and Hypotheses

Research Questions (RQ) / Research Objectives (RO)	**Hypotheses**
Main Research Question (RQ): *To what extent project management methodologies influence project success and business value in financial services?*	
RQ1: *What are the type of projects and related issues existing in financial services?*	
RO1: To identify the type of projects and related issues existing in financial services.	**H1:** The influence of project management methodologies differs with different project types.
RQ2: *To what extent the project success is influenced by the project planning, project risks, project upper management commitment, project strategic fit, project scheduling, project flexibility, and project communication for different project management methodologies?*	
RO2: To ascertain the different project management methodologies leading to project success in financial services.	**H2:** Project success is influenced by project planning, project risks, project upper management commitment, Project strategic fit, Project scheduling, Project flexibility and Project communication for different Project management methodologies.
RQ3: *To what extent the business value is influenced by the project planning, project risks, project upper management commitment, project strategic fit, project scheduling, project flexibility, and project*	

Research Questions (RQ) / Research Objectives (RO)	Hypotheses
communication for different project management methodologies?	
RO3: To ascertain the different project management methodologies leading to business value in financial services.	**H3:** Business value is influenced by project planning, project risks, project upper management commitment, Project strategic fit, Project scheduling, Project flexibility and Project communication for different Project management methodologies.
RQ4: *What is the effect of project innovativeness and project size on project performance, client satisfaction, and overall project success for different project management methodologies?*	
RO4: To determine the effect of project size and project innovativeness on project success in financial services.	**H4:** There is a significant influence of project innovativeness on project success for different project management methodologies. **H5:** There is a significant influence of project size on project success for different project management methodologies.
RQ5: *How does project innovativeness and project size influences the relationship between project planning, project risks, project upper management commitment, project strategic fit, project scheduling, project flexibility, project communication and project success for different project management methodologies?*	
RO4: To determine the effect of project size and project	**H6:** Project innovativeness moderates the relationship between

Research Questions (RQ) / Research Objectives (RO)	Hypotheses
innovativeness on Project success in Financial Services.	project planning, project risks, project upper management commitment, project strategic fit, project scheduling, project flexibility, project communication and project success for different project management methodologies. **H7:** Project size moderates the relationship between project planning, project risks, project upper management commitment, project strategic fit, project scheduling, project flexibility, project communication and project success for different project management methodologies.
RQ6: *What is the effect of project innovativeness and project size on business value for different project management methodologies?*	
RO5: To determine the effect of project size and project innovativeness on business value in financial services.	**H8:** There is a significant influence of project innovativeness on business value for different project management methodologies. **H9:** There is a significant influence of project size on business value for different project management methodologies.
RQ7: *How does project innovativeness and project size influences the*	

Research Questions (RQ) / Research Objectives (RO)	Hypotheses
relationship between project planning, project risks, project upper management commitment, project strategic fit, project scheduling, project flexibility, project communication and business value for different project management methodologies?	
RO5: To determine the effect of project size and project innovativeness on business value in financial services.	**H10:** Project innovativeness moderates the relationship between project planning, project risks, project upper management commitment, project strategic fit, project scheduling, project flexibility, project communication and business value for different project management methodologies. **H11:** Project size moderates the relationship between project planning, project risks, project upper management commitment, project strategic fit, project scheduling, project flexibility, project communication and business success for different project management methodologies.

7 VARIABLES UNDER STUDY

Based on the research questions and research objectives, the variables under study are as follows –

- **Exogenous variables** are project planning, project risk management, project upper management commitment, project scheduling, project flexibility, project communication, project strategic fit, project management methodology.
- **Intervening variables** are project innovativeness and project size.
- **Endogenous variables** are project success and business value.

8 CONCEPTUAL FRAMEWORK

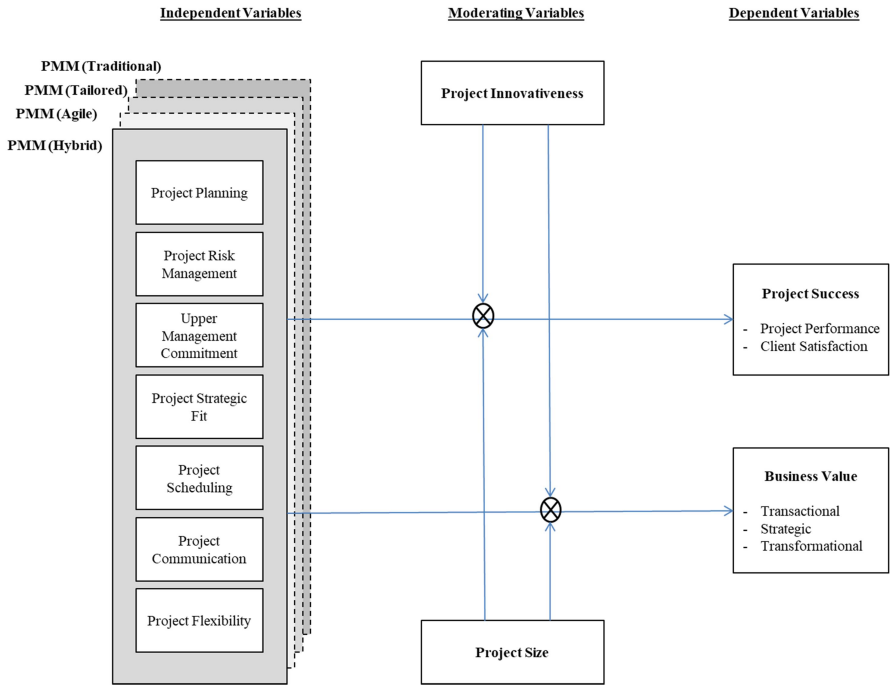

Fig 1. Conceptual Framework (Ahimbisibwe et al., 2017)

9 OPERATIONAL DEFINITIONS

Some of the operational definitions for the key terms related to the study are as follows:

- **Business value:** It is expressed in terms of operational, tactical and strategic benefits to an organization.
- **Client satisfaction:** It refers to satisfying the expectations of project stakeholders for the overall success.
- **Projects in Financial Services:** These are temporary work efforts with a clear beginning and end. A work effort may be considered as a project if it meets the criteria established by the organization.
- **Project communication:** It refers to the exchange of relevant information among project stakeholders.
- **Project flexibility:** The project can vary its outcome in a cost-effective manner within the project time-frame and changes in the project.
- **Project management methodology:** It relates to the traditional or non-traditional ways of executing the projects.
- **Project management:** It refers to the discipline of directing the actions of project resources to achieve project deliverables while controlling for risks associated with scope, schedule, and costs.
- **Project performance**: It is the set of four constraints of a project schedule, project quality, project cost, and project scope that must be balanced to deliver the project objectives successfully.
- **Project planning:** It refers to the process to establish the steps needed to define project activities and effort related to the same.
- **Project risks:** It refers to the techniques help to minimize the project related uncertainties or failures.
- **Project scheduling:** It refers to the sequence of activities required to achieve Project deliverables.
- **Project strategic fit:** It refers to the project alignment with the organizational long term planning perspective.
- **Project success:** It refers to the delivery of the project by fulfilling customer's requirements based on the project constraints.

- **Project upper management commitment:** It refers to the top management support and their direct participation in the project.

10 RESEARCH METHODOLOGY

The research methodology used in this study is descriptive in nature. Stratified random sampling is used for identification of the respondents. The population of the study are managers at different management levels by considering the sample frame of ~ 2 million (calculated based on RBI (2019) in Financial Services organizations in Bengaluru), at confidence level of 95% at confidence interval of 5% . Thus, the sample size appear as ~ 440 (based on Krejcie and Morgan table = 384). Primary source of data is used for the data analysis and data is collected with the help of comprehensive web questionnaire. All responses as received from the participants were carefully double-checked for accurateness of information. The response rate of the web-based survey questionnaire was 28.1%. There was no significant difference (alpha 5%) in the initial and later responses. A 'dual-informant' approach was applied to reduce the 'bias-risk' through common-method variance by comprising managers from different management responsibilities.

The variables used in the present study are based on multiple-item scales referred from the available project management literature. A few scales are re-worded and adapted to align with the study context. Five industry-specific professionals from the sample firms were consulted to evaluate all items based on a 7-point Likert scale, and by averaging the particular items each study variable is constructed. A double-blind back-translation approach is taken into consideration to ensure meaning accuracy. A pilot test is conducted with consultants from the Financial Services industry for the validation of all measures. PCFA (principal components

factor analysis) is used to verify the items scale validity, followed by CFA (confirmatory factor analysis). The PCFA was performed to observe that all items load as a single factor. Cronbach's alpha (α) for all scales was observed more than 0.7 as acceptable values and indicates the scale reliability. A confirmatory factor analysis (CFA) was carried out for measurement model validation and has significant factor loadings between 0.682 and 0.878. The model fit was satisfactory at adjusted Chi-Square χ 2 = 8.645 ($p > 0.001$); GFI = 0.997; NFI = 0.996; CFI = 0.998; SRMR = 0.003. The measurement instruments used project innovativeness (Gemünden et al., 2005), project size (Barki et al., 2001), project planning (Muller and Turner, 2007), project risks (Ilincuta, 1996), project upper management commitment (Ahmed et al., 2016), project management methodology (Joshlin et al., 2015), project strategic fit (Unger et al., 2012), project scheduling (Powers et al., 1973), project flexibility (Olsson, 2008), project communication (Copper et al., 1986), project success (Shenhar et al., 2001) and business value (Gregor, 2006).

Statistical techniques used for the data analysis are descriptive statistics, PFCA, CFA, correlation, ANOVA, MANOVA, factor analysis, cluster analysis and multiple regression analysis. Software tools such as Mendeley and MS- Excel for literature review, SPSS v21 for descriptive statistics analysis and hypothesis testing and, AMOS for model fit test are used.

11 RESEARCH OUTCOMES

The primary aim of this study is to investigate the role of project management methodologies in achieving project success and business value in Financial Services. It was hypothesized that (1) through project planning, project risks management, having project upper management commitment,

project strategic fit, project scheduling, project flexibility and project communication improve the project success and also help in business value creation using different project management methodologies; (2) there is a significant relationship between project planning, project risks management, having project upper management commitment, project strategic fit, project scheduling, project flexibility, project communication, project innovativeness, project size, project success and business value; and (3) the strength of these relationships is moderated by project innovativeness and project size. To test the hypotheses, data from 414 project managers were collected and analysed. A measurement model was used to establish validly and reliable constructs. To test the main effects and interaction effects through hierarchical linear regression analysis, the models are formulated as follows: (a) the model 1 is to test the main effects of different project methodologies on endogenous variables; (b) the model 2 is to test the main effects of exogenous variables on endogenous variables; (c) the model 3 is to test the main effects of exogenous variables and intervening variables on endogenous variables; (d) the model 4 is to test the moderation effects among interaction effects among exogenous variables and intervening variables on endogenous variables. Table 2 indicates the statistical techniques used to test each hypothesis created based on the research objectives and research questions as per Table 1 and the hypotheses testing outcomes.

Table 2. Hypotheses Testing Outcomes

Research Question	Research Objective	Statistical Techniques/ Methods Used	Hypothesis	Result
RQ1	RO1	Cluster Analysis	H1	Accepted
RQ2	RO2	Correlation Analysis	H2	Accepted

Research Question	Research Objective	Statistical Techniques/ Methods Used	Hypothesis	Result
RQ3	RO3		H3	Accepted
RQ2	RO2	Hierarchical linear regression analysis with model 1 and model 2	H2	Accepted
RQ3	RO3		H3	Accepted
RQ4	RO4	Hierarchical linear regression analysis with model 3	H4	Accepted
RQ4	RO4		H5	Accepted
RQ5	RO5	Hierarchical linear regression analysis with model 4	H6	Accepted
RQ5	RO5		H7	Accepted
RQ5	RO5	Hierarchical linear regression analysis with model 3	H8	Accepted
RQ5	RO5		H9	Accepted
RQ5	RO5	Hierarchical linear regression analysis with model 4	H10	Accepted
RQ5	RO5		H11	Accepted

12 DISCUSSION

12.1 TYPE OF PROJECTS AND RELATED ISSUES

The study outcomes found that the types of information technology projects that are identified in Financial Services are as follows:

'Low-Technology' projects rely on existing and well-established technologies, such as recreating an existing product. Projects involving low

technology, however, were more likely to meet schedule and budget constraints than projects involving higher-level technologies. In low-technology projects, in fact, overruns were seen as almost intolerable: meeting time and budget were perceived as critical to success. Over-runs in such projects did occur, however, but were attributed to factors that were beyond management's control. Low-tech projects, for example, are simple in terms of technology, and in most cases, the customer is just interested in a reasonably useful product to be used for traditional purposes. Based on the study findings, project managers give more importance to customer satisfaction as compared to project performance and business value. Project managers are portrayed low on project flexibility and project risk management because low-tech projects include no technological uncertainty, they can be executed by many project managers, who normally operate in a highly competitive environment. The typical benefit an organization can expect from a low-tech project is reasonable profit, with relatively low margins.

'Medium-Technology' projects rest mainly on existing, base technologies but incorporate some new technology or feature. Examples include projects of incremental innovation, as well as improvements and modifications of existing projects. Medium-tech projects provide more than just a standard solution for customers. Such projects involve some novel element, often involving improvements or modifications to an existing product, or the production of new products in a well-established technological field. Customers in this category look for more than just a standard product: the project needs to yield a functional solution that both meets their needs and provides some benefit compared to previous generation products. Based on the study findings, project managers give more importance to project performance rather than customer satisfaction and business value, and moderate project flexibility and risk management.

Medium-tech projects are still relatively simple in terms of new technology. An organization undertaking such projects is usually looking to improve a previous product or to increase its existing product line, without revolutionizing its technology. Such projects are the most common in any industry, and their technical risk is reasonably low. The immediate benefits organizations can look for are appropriate profits and possibly product diversification.

'High-Technology' projects are defined as projects in which most of the technologies employed are new, but existent, having been developed prior to project initiation, such as project development using new mobile technology. High-tech projects usually involve the development of new products based on a collection of new technologies. Such projects address new needs or provide completely new solutions to previous problems. Based on the study findings, project managers give more importance to business value and customer satisfaction as compared to project performance. Also, study outcomes portrayed higher project flexibility and moderate risk management. High-tech projects are riskier than the low and medium-technology project types, and have a high probability of over-runs, sometimes causing losses in the short run. When undertaking such projects an organization look for the prospect of additional profits in the longer run, of increasing market share, but also of gaining the means for additional product lines or technological capabilities.

'Super High-Technology' Projects are based primarily on new, not yet existent technologies, which must be developed during project execution. This type of projects are relatively rare and are usually carried out by only a few (and probably large) organizations or R&D. Super high-technology projects usually address very advanced needs, for which no technology or previous solution readily exists. Customers of super-high-tech projects

expect quantum leap solutions and enormous advantages in effectiveness. Based on the study findings, project managers give more importance to business value, customer satisfaction, and project performance. Also, study outcomes portrayed higher project flexibility and moderate risk management. Super high-technology projects are the riskiest of all. The study outcomes found only a few organizations are willing to embark on them where stakes are high, but so are opportunities. A successful project in this category create leapfrog advantages for the performing organization, and although profits may sometimes come late, but at higher rate. Therefore, this indicates the role of project management methodologies along with the contingency factors varies with the type of project. Hence, H1 is accepted.

12.2 PROJECT MANAGEMENT METHODOLOGIES

The project management methodology (PMM) is an effective approach by which to consolidate earlier project management efforts in an organization. PMMs play an important role in securing the presence of a common language and common processes. It helps organizations in benchmarking and produces continuous feedback. Based on study outcomes, the different project management methodologies leading in Financial Services are as follows:

Hybrid PMM helps in uncertainty and complexity, competitive markets, high client expectations. The three basic principles of hybrid project management methodology are, it can be compatible with any industry and team of any size, blending happens at the beginning of the project and responsibility needs to be clearly defined. It helps in optimizing the agile-waterfall ratio to best suit the project needs. Hybrid is compatible with all environments and teams of all sizes. The study outcomes found that the hybrid project management methodology has a significant relationship with

project success (especially with customer satisfaction) but shows negative effects due to the enforcement by upper management to achieve strategic fit of projects which is caused by mistakes in planning and project execution. It is evident that hybrid PMM provides the flexibility and speed of delivering while staying abreast of the final product quality level.

Agile PMM is an evolving and collaborative way to self-organize across teams. The work is adaptive in planning, evolutionary in development, seeking early delivery and is always open to change if that leads to improvement. Agile PMM is fast and flexible in nature. The core values of agile are such as individuals over processes, working software over detailed documentation, customer collaboration over contract negotiation, and responding to change over rigid planning. It has been applied to projects that seek to drive forward with innovation and have a level of uncertainty, need a more responsive and fast-paced project schedule. The study outcomes show that agile PMM has a significant relationship with project success (especially customer satisfaction) and has positive effects on project success. It is also evident that upper management is more committed to having greater customer satisfaction. The study outcomes show Agile PMM supports more project flexibility.

Waterfall PMM is the most straightforward and linear of all the approaches to managing a project. In waterfall PMM, the project flows downward and moves from one phase to another only once that phase has been successfully completed. It works in different phases, such as beginning with capturing requirements in a document, creating models to analyse them, designing, coding, testing, and installing and maintenance that system. The study outcomes show Waterfall PMM has a significant relationship with project success. It has negative effects on project performance and positive

effects on customer satisfaction. It means that upper management is committed to the process and dedicated to removing any roadblocks.

Tailored PMM produces direct and indirect benefits to organizations—generally, the greater the level of project management methodology tailoring, the greater the level of project success. Some of the benefits are, to include more commitment from team members who helped to create it and more efficient use of project resources. The study outcomes show tailored project management methodology has a significant relationship with project success and shows negative significant effects on project performance. It is because the methodology is not tailored correctly. Project team members are independently modifying the methodology without guidance and are developing their own unique versions, eliminating the efficiencies gained by standardization. Hence, H2 is accepted.

Business value is measured results that indicate an improvement in the business bottom line. The benefit generally measured in terms of reducing the project team size to support the project, better quality that justifies a high project budget for a greater benefit. Financial Services organizations aspire to use customer relationship management strategies that distinguish between customers based on the business value created. As an organization gets more disciplined in conducting this analysis, it will increase its data, capacity, and knowledge to get more proficient and accurate benefit analysis for determining the highest value projects in the future and to avoid risks associated. From the study outcomes, it is evident that the upper management and managers are responsible for ensuring that projects bring value to the organization. The bottom line is that it takes a collaborative effort from all to realize the true business value. Through the effective use of project management methodologies, organizations possess the ability to employ reliable, established processes to meet strategic

objectives and obtain greater business value from their project investments. The whole purpose for project management including portfolio and program management is to execute work that provides increased “value” to the business or customer. In case an organization does not realize increased business value as a result of sponsoring a project, then the project will not be pursued. As measuring business value is as unique as the organization; therefore, this study attempted to focus on transactional value, strategic value and transformational value, measuring the increased business value that a project produces. It is evident that at the project level some of the contingency factors contribute to a group of projects (i.e. project portfolios) efficiency, such as clear project goals, information availability, systematic decision making, top management support, management of projects based on project type, standardization of project management, and metrics and measurement. This aligns with the study findings as most of the factors such as project planning, upper management commitment, project strategic fit, project communication, and project flexibility show significant (except project risks and project scheduling) effects on business value.

Transformation programs or large scale projects change how organizations use people, processes, technology, and physical infrastructure to develop capabilities to meet their mission. These are driven by a sense of urgency, are broad in scope and impact, and are typically done in parallel with on-going operations. Transformations require tailored applications of the standard project and program management approaches to meet the special challenges associated with managing the human side of change as well as building ownership among key program stakeholders. Thus, it is important to have activities and techniques for defining, creating, maximizing, and sustaining the benefits provided by programs or projects by addressing the workforce, processes, technology, and physical infrastructure.

Organizations that use strategic methods for a group of project evaluation should have higher performance. Findings support that there is a linkage between the projects and strategy formulation and having value-oriented goals helps the organization for future preparedness. Also, the right balance of projects help in achieving the strategic value. The study outcomes show that hybrid and agile project management methodologies have significant effects on strategic value and transformational value. Waterfall project management methodology shows significant effects on transformational value. There are no effects of project management methodology is observed on the tailored methodology. These findings align with basic features of hybrid, agile, and waterfall project management methodologies. Hence, H3 is accepted.

12.3 EFFECTS OF PROJECT INNOVATIVENESS AND SIZE OF PROJECTS

The capacity to innovate has become a key element in strategic planning in organizations interested in new technologies, products, and processes. It permits organizations to respond to market demands by introducing new products or using new technologies. Thus, although the capacity to innovate is related to the number of innovations implemented, it is also a component of the innovation that measures firms' adaptation capacity. It can be viewed as an input, while the firm's competitive advantage is the output. Organizations with greater innovation capacity develop new abilities that respond better to changes in the environment and that can lead them to competitive advantages. Innovation occurs when organizations develop external focus and visioning capabilities. Innovative organizations addresses challenges emerging in the environment faster and better than other firms, thereby achieving strategic fit and shows a positive relationship between new project development and technical fit. Similarly,

newness in the projects allows organizations to develop superior managerial capabilities to match required and realized adaptations to the environment. Also, the newness in project is closely related to the competitive advantage given at intermediate levels of environmental dynamism.

In practice it is hard to manage a software project in a linear manner, as it is extremely difficult to make detailed specifications without any iterations and feedback to the process later, and the 'time to market' is too long, i.e., it takes too long before any significant results from the project can be presented to the potential customer. Projects executed using waterfall PMM do not fall under innovation. This finding is supported by the study outcomes as the project innovativeness is insignificant and has no effects on project performance. Agile-based projects represent a major departure from traditional and plan-based approaches to especially in software product development. Also, hybrid and agile PMM supports a co-located team working closely together with customer(s) can create a high-value innovative product cost-effectively with frequent short iterations. Agile PMM does not encourage the formal, document-centric activities needed to satisfy robust process requirements, such as documented design and requirements management. Hence, H4 is accepted.

Based on the earlier studies, project size does influence the overall project performance considering the four different components, such as project effort, project duration, team size, and project budget. It is evident that the overall effort in terms of person-months helps to know about underperforming projects so as the risk associated. The risk of underperforming increases as the project duration increases. Larger teams increase the risk of underperformance. Project budget is the poorest discriminator among underperforming and better-performing projects. Overall, an increase in the size of a project means increased risk. As projects

grow in size and duration, they will benefit more from adopting structured agile. The hybrid approach appeals to larger enterprises and those looking to transition to agile. Project size does have significant effects on project success (especially on client satisfaction) irrespective of any project management methodology in use. Hence, H5 is accepted.

The role of the competitive environment and the approach organization takes toward the environment, yield avenues for future opportunities. As environmental complexity increases, a group of projects (i.e. project portfolios) should be shifted towards higher levels of radical projects, while increasing environmental instability means project portfolios should be shifted toward higher levels of incremental projects. Project innovativeness is related to the degree of fit of internal and external resources required to develop the new product. With increasing degrees of innovativeness come greater technological discontinuities and greater market-related, organizational, and environmental changes. At its extreme, a radical innovation will, for example, apply a totally new technological principle, create a new market, reshape the value chain, require totally new production methods and facilities, and demand a new infrastructure for its use. Thus, greater degrees of innovativeness in new product development (NPD) projects bring with it stronger uncertainties. Similarly, customer focus becomes critical when it comes to new product development or projects with new technical capability because it places the ultimate objective to be clear. All activities of an organization must be planned and executed toward improving processes leading to high-quality products and achieving project success. Hence, an organization needs to assess them regularly and adjust its operations accordingly. The study outcomes indicated that the project innovativeness and project size does have varying moderation effects because of the relative strategic importance of the individual levels when bundling single projects to have proper balancing,

mistakes in planning and execution, narrowly defined goals of individual projects cause inter-project coordination problems, unfocused projects and resource allocation. Hence, H6 and H7 are accepted.

A project is "undertaken to create a unique product, service, or result" (PMI, 2018). In some cases, the products or services produced will be new offerings to the customer and will inherently provide new value to the business. In other cases, existing products or services will be modified in some way that will create new value for the customer or business. If a business becomes complacent and does not look to create new value for its customers, it is likely that its competitors will begin to find ways to fill those needs. Eventually, the organization that does not continually innovate and fulfil the needs of its customers will become stale. This failure to continue to add value for the client base will allow other organizations to better fill those needs and acquire more of the market share. Therefore, an organization must always be looking to add value for its customers or it will go out of business. Projects, therefore, become the lifeline of a viable business. Due to the project innovativeness, more uncertainties arise, and risk associated cannot be avoided, does not warrant increased project flexibility, and may create communication gaps due to technological advancement. To see more effects, it becomes important to have robust project risk management. With the increased project innovativeness, more project risk management is required and aligns the single project into the organizational strategy. Top management commitment can be detrimental to realizing value from novel, scientific knowledge inputs in the strategist dimension if decision-makers do not acknowledge the role of foresight to explore the entire bandwidth of strategic paths and possible future states. Lack of top management commitment is associated with a lack of critical resources and poor leadership leading to poor employee empowerment and motivation, poor or weak organizational vision, and plan statement that dilutes employee's

efforts in value creation projects or programs. This causes loss of organizational productivity, profitability, effective workplace efficiency, improved job satisfaction, employee morale, and continuous product improvement. Sometimes management is overwhelmed by the needs of day-to-day operations. By adopting a contingency perspective on the formalization of a group of projects (i.e. project portfolios); the study outcome suggests that formalization leads to business value in more complex projects. The project formalization corresponds to the specific requirements for the complexity of the individual project portfolio to achieve an optimal level of success. Thus, the number of projects and their size, and the project interdependencies between the individual projects are important. Hence, H8 and H9 are accepted.

Studies showed that transformational leadership in an organization develops the innovation climate among the workforce. Transformational leaders in projects could do more to motivate project members' innovative behaviours if the members perceive that they are in a supportive climate. Leaders could also form a mutual belief in or vision of innovation. If they perceive the climate as supportive of innovation, individuals would perform better in generating creative ideas, seeking available resources and implementing innovation schemes under transformational leadership, and this leads to business value creation in an organization with the help of need-pull innovation or technology-push innovation, and right project selection and prioritization to have greater strategic value. Hence, H10 and H11 are accepted.

13 CONCLUSION

The Projects are unique in nature and need a different contingent approach to achieve project goals. Project variables changes to some extent

based on the project context. Project managers do not get attracted by the straitjacket approaches to project management rather project managers always look for formal tools to begin, but these approaches get change as the project makes some progress. Thus, it shows an intrinsic linkage among projects, processes, and contingency theory. In summary, this study highlights and illustrates how different project management methodologies can lead to more success and business value creation in financial services IT projects. The study outcomes are in line with the earlier studies, which state the greater remunerations of project management methodologies for projects with higher complexity, innovativeness, and uncertainties lead to overall business value as well as project success. This research enhances the contributions that have been offered related to the role of project management methodologies in IT projects to achieve success and business value in general. For project management, this study shows the differential effects of project innovativeness and project size on project success and its business value. The examination of success and business value in IT projects is imperative in measuring the overall performance of project groups in successful project delivery in the long term perspective. To improve in project management approaches, lessons learned from individual projects are recognized as significant. However, it can be challenging to separate the root causes from the individual projects for failures or success in projects. The study outcomes offer useful insights specific to project management and can be applied on project portfolios or programs and in discrete projects. Overall, this study addresses the fact and weaknesses of the contingency perspective as lesser empirical studies are available to date.

14 MANAGERIAL IMPLICATIONS

Project managers should implement the appropriate incentives and build a supportive team culture to enhance knowledge-sharing and learning.

Similarly, senior managers should play a key role in risk management by ensuring to have effective decision-making. When organizing for disruptive and radical innovation within large financial service firms, managers need to prioritize identified key barriers over traditional barriers in the design of an effective innovation process. In addition, managers should carefully decide on the allocation of resources. To achieve project success and the intended business goals, project managers should instead be focusing on the delivery of business value. Project managers should ensure improved team morale, which contributes to less turnover and expensive rehiring processes. With project management driving business value, project team members can be enabled to offer benefits to their business, such as competitive advantages with new technology, new products, or services. A project manager can take some of the key steps to deliver benefits to both their business and customers, by understanding the project vision, comprehend the project purpose to work with project teams, have open communication with project teams, and empower them to achieve project goals, foster an environment that helps project teams to deliver on the value, and measure how the value will be delivered throughout the project. Hence, it is imperative to have continued professional development for project managers through continual learning. Project managers should continuously focus on project performance and team members' knowledge enhancement to have higher innovativeness. Also, project managers should be trained in tactics that offer flexibility, such as contingency planning, dynamic resource allocation, late locking of project requirements (e.g. in the stage-gate model), etc. Furthermore, senior managers should spend more time in periodic reviews of project controls, and put in more effort in promoting innovation project activities within the organization and building dynamic capabilities at project and portfolio levels. Project or portfolio managers should seek new opportunities, learn more from market changes and improve capabilities to transform project innovativeness into better long-term benefits. Therefore,

managers at every level should also focus on resource development in line with strategic goals and allocate tangible and intangible assets to the entire development process, and also achieve transformational benefits such as new skills or knowledge gain, new business strategies, organizational processes, etc.

15 LIMITATIONS AND RECOMMENDATIONS FOR FUTURE RESEARCH

This study has certain limitations that one needs to be mindful of while inferring the outcomes. However, the sample size is satisfactory since it does not represent diverse industries. To be precise, the sample represents medium to large IT projects. Thus, the findings may not be appropriate for small projects in less complex environments. Furthermore, the data are gathered from organizations in the Financial Services industry. Therefore, the research outcomes can only be generalized to project-based organizations in this industry.

Every research work is restricted by scope. However, any findings beyond the scope of the particular study can be considered for further research. First, cross-sectional data representing IT projects from Financial Services organizations are used. Therefore, future studies can be conducted considering project types from different industries, and sectors. Second, although this study examines the moderating role of project innovativeness and project size between project factors, project success, and business value considering different PMMs. Future studies can examine other potential moderating variables influencing the entire process. Third, the study uses the manager's perspective and quantitative method to analyse the relationship between study variables. Future studies can discuss using a qualitative approach, for example, in-depth interviews, case studies, or focus groups,

and analyse project factors at different project stages. Lastly, the influence of contingency factors in other project management methodologies such as Scrum, Lean practices, Six Sigma and Kanban, should be considered in more detail and the sample size should be extended to enable a more elaborated analysis and could be extended to other industries. The current research work can be extended to test the effects of different dimensions of project success on business value creation and how this would help organizations to sustain in dynamic environments.

16 TENTATIVE STRUCTURE OF DISSERTATION

Chapter One: Introduction - This chapter will give background of the financial services sector along with the current scenario on the project success and business value creation in other industries.

Chapter Two: Review of Literature - This chapter will be focused on general reviews of literature with regards to the study variables and related theories which will incorporate the scholarly work.

Chapter Three: Research Methodology - This chapter will provide insight on research philosophy, operational definitions, design of the study and the techniques used for data analysis.

Chapter Four: Data Analysis - This chapter will provide insight on research outcomes based on the research objectives and designed hypotheses, and in-depth analysis of each finding.

Chapter Five: Summary, Findings, Discussion, and Conclusion - The findings made from the analysis will be discussed in this chapter and will be attempted to provide literature evidence for it. Scope for further research will also be discussed with limitations and conclusions.

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APPENDIX

APPENDIX A: LIST OF PUBLICATIONS

Tiwari, P., & Suresha, B. (2019). Agile Methods Tailoring in Project Delivery: A Systematic Literature Review. *PIMT Journal of Research*, 12 (2), 51-56.

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APPENDIX B: RCEC APPROVAL

CENTRE FOR RESEARCH

CU: RCEC/00195/03/21 03 March 2021

Ms Pankaj Tiwari
Reg No 1720081
CHRIST (Deemed to be University)

Sub: Approval of the Study Titled "Role of project management methodologies in achieving project success and business value creation in the financial services sector".

The Research Conduct and Ethics Committee has reviewed your application for ethical clearance for the Study titled "Role of project management methodologies in achieving project success and business value creation in the financial services sector**".**

The Proposal is

√Exempt from review.

~~□ Expedited for review and the result will be intimated in two weeks.~~

~~□ Recommended for full review and the results will be intimated in three weeks.~~

Additional Comments: Nil

The researchers are encouraged to disseminate the findings of the research in a suitable form to the beneficiaries and participants of the research and a copy of the same sent to the RCEC.

Sincerely,

T.S. George

Tony Sam George
(Member Secretary to Research Conduct and Ethics Committee)
Center for Research
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